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1.0 NON-TECHNICAL SUMMARY

- 1.1 CampbellReith was instructed by London Borough of Camden, (LBC) to carry out an audit on the Basement Impact Assessment submitted as part of the Planning Submission documentation for 64 Avenue Road, London, NW8 6HT (planning reference:2024/4786/P). The basement is considered to fall within Category C as defined by the Terms of Reference.
- 1.2 The Audit reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development in accordance with LBC's policies and technical procedures.
- 1.3 CampbellReith was able to access LBC's Planning Portal and gain access to the latest revision of submitted documentation and reviewed it against an agreed audit check list.
- 1.4 The BIA has been produced by Geotechnical and Environmental Associates Limited (GEA) and the authors' qualifications meet the requirements of CPG Basements. The Flood Risk Assessment (FRA) has been produced by MBP Consulting Engineers.
- 1.5 The proposed development includes demolition and the construction of a basement and a subbasement beneath the existing footprint of the house and a two-storey extension to the rear of the house using piling and underpinning techniques. The proposed development also includes the redevelopment of the existing pool house building at the rear of the house into a single storey pavilion with a basement.
- **1.6** Screening and scoping assessments are provided, supported by desk study information. Inconsistencies in responses should be clarified.
- 1.7 The BIA confirms that the ground conditions on site comprises Made Ground over the London Clay Formation.
- **1.8** The BIA does not anticipate significant inflows of groundwater during construction; however, it notes that perched groundwater may be present within the Made Ground.
- 1.9 Its indicated that attenuation SuDS will be adopted; however, no details have been provided. The drainage strategy should be clarified.
- 1.10 Any potential impacts due to the tree removal on the boundary wall must be considered in the BIA.
- **1.11** Geotechnical parameters for retaining wall design have been provided. Additional information regarding the structural loads are requested.
- 1.12 Clarifications on the structural proposals are requested, including the feasibility of single stage underpins to 4.95m depth.
- 1.13 The Ground Movement Assessment indicates a maximum damage of Burland Category 1 (Very Slight) to the neighbouring buildings. Potential impacts to the boundary walls and the neighbouring building towards the east side must be included in the GMA. Additionally, further clarity on the GMA calculations are requested, as detailed in Section 4.



- 1.14 The BIA recommends movement monitoring is carried out on adjacent properties during construction of the basement.
- 1.15 As described in Section 5, it cannot be confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process. Queries and comments on the BIA are described in Section 4 and Appendix 2.



2.0 INTRODUCTION

- 2.1 CampbellReith was instructed by London Borough of Camden (LBC) on 17th February 2025 to carry out a Category C audit on the Basement Impact Assessment (BIA) submitted as part of the Planning Submission documentation for 64 Avenue Road, London, NW8 6HT (Planning reference 2024/4786/P).
- 2.2 The audit was carried out in accordance with the Terms of Reference set by LBC. It reviewed the Basement Impact Assessment for potential impact on land stability and local ground and surface water conditions arising from basement development.
- 2.3 A BIA is required for all planning applications with basements in Camden in general accordance with policies and technical procedures contained within
 - Camden Local Plan 2017 Policy A5 Basements.
 - Camden Planning Guidance (CPG): Basements. January 2021.
 - Guidance for Subterranean Development (GSD). Issue 01. November 2010. Ove Arup & Partners.
- 2.4 The BIA should demonstrate that schemes:
 - a) maintain the structural stability of the building and neighbouring properties;
 - b) avoid adversely affecting drainage and run off or causing other damage to the water environment;
 - c) avoid cumulative impacts upon structural stability or the water environment in the local area;

and evaluate the impacts of the proposed basement considering the issues of hydrology, hydrogeology and land stability via the process described by the GSD and to make recommendations for the detailed design.

- 2.5 LBC's Audit Instruction described the planning proposal as "Rear extension to the existing dwelling, creation of a basement, demolition of the existing pool house and construction of replacement pool house".
- 2.6 LBC confirmed 64 Avenue Road is not a listed building and nor are any of the neighbouring buildings. The site does not lie within a Conservation Area.
- 2.7 CampbellReith accessed LBC's Planning Portal on 25th February 2025 and gained access to the following relevant documents for audit purposes:
 - Ground Investigation & Basement Impact Assessment (BIA) by Geotechnical & Environmental Associates Limited (GEA), Ref. J24140-Rev 0, dated September 2024.
 - Flood Risk Assessment (FRA) by MBP Consulting Engineers, Ref.10364-MBP-ZZ-XX-RP-C-0001, dated August 2024.
 - Arboricultural Impact Assessment Report by Landmark Trees, Ref. KSR/64AVR/AIA/01, dated 12th September 2024.



- Planning Application Drawings consisting of:
 - Existing plans and elevations by KSR Architects & Interior Designers, dated August 2024.
 - Demolition Plans and Elevations by KSR Architects & Interior Designers, dated August 2024.
 - Proposed Plans and Elevations by KSR Architects & Interior Designers, dated May 2024.
- Design & Access Statement by KSR Architects & Interior Designers, dated October 2024.



3.0 BASEMENT IMPACT ASSESSMENT AUDIT CHECK LIST

Item	Yes/No/NA	Comment
Are BIA Author(s) credentials satisfactory?	Yes	Qualifications of the authors of the FRA not provided.
Is data required by Cl.233 of the GSD presented?	Yes	
Does the description of the proposed development include all aspects of temporary and permanent works which might impact upon geology, hydrogeology and hydrology?	Yes	
Are suitable plan/maps included?	Yes	Relevant ARUP GSD maps referenced but not provided within the BIA.
Do the plans/maps show the whole of the relevant area of study, and do they show it in sufficient detail?	Yes	
Land Stability Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 3.3.2 of the BIA. Justifications missing for "No" responses.
Hydrogeology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	No	Section 3.1.1 of the BIA. Justifications missing for "No" responses. Some screening responses are presented inconsistently across the screening assessment.
Hydrology Screening: Have appropriate data sources been consulted? Is justification provided for 'No' answers?	Yes	Section 3.1.3 of the BIA. Some screening responses are presented inconsistently across the screening assessment.
Is a conceptual model presented?	Yes	Section 6.0 of the BIA.



Item	Yes/No/NA	Comment
Land Stability Scoping Provided? Is scoping consistent with screening outcome?	No	Section 4.0 of the BIA. Screening outcomes not brought forward to the scoping stage.
Hydrogeology Scoping Provided? Is scoping consistent with screening outcome?	No	Section 4.0 of the BIA. Screening outcomes not brought forward to the scoping stage.
Hydrology Scoping Provided? Is scoping consistent with screening outcome?	Yes	Section 4.0 of the BIA.
Is factual ground investigation data provided?	Yes	Appendix A of the BIA.
Is monitoring data presented?	Yes	Section 5.3 of the BIA.
Is the ground investigation informed by a desk study?	Yes	
Has a site walkover been undertaken?	Yes	
Is the presence/absence of adjacent or nearby basements confirmed?	Yes	Section 2.1.1 of the BIA.
Is a geotechnical interpretation presented?	Yes	
Does the geotechnical interpretation include information on retaining wall design?	Yes	
Are reports on other investigations required by screening and scoping presented?	Yes	Flood Risk Assessment (FRA) and Arboriculture report provided.
Are the baseline conditions described, based on the GSD?	Yes	
Do the baseline conditions consider adjacent or nearby basements?	Yes	



Item	Yes/No/NA	Comment
Is an Impact Assessment provided?	Yes	Section 12.0 of the BIA
Are estimates of ground movement and structural impact presented?	Yes	GMA provided
Is the Impact Assessment appropriate to the matters identified by screening and scoping?	No	
Has the need for mitigation been considered and are appropriate mitigation methods incorporated in the scheme?	Yes	
Has the need for monitoring during construction been considered?	Yes	Section 10.2 of the BIA.
Have the residual (after mitigation) impacts been clearly identified?	No	Potential impacts due to the proposed depth of single stage underpins to be included.
Has the scheme demonstrated that the structural stability of the building and neighbouring properties and infrastructure will be maintained?	No	Potential impacts to the boundary walls and building to the east part of the site must be considered. Rear walls of 62 Avenue Road appear to be modelled incorrectly in the GMA.
Has the scheme avoided adversely affecting drainage and run- off or causing other damage to the water environment?	No	Clarifications of the proposed SuDS strategy are requested.
Has the scheme avoided cumulative impacts upon structural stability or the water environment in the local area?	No	
Does report state that damage to surrounding buildings will be no worse than Burland Category 1?	Yes	However, this requires revision following any changes to the GMA.
Are non-technical summaries provided?	Yes	

4.0 **DISCUSSION**

- 4.1 The Basement Impact Assessment has been produced by Geotechnical and Environmental Associates Limited (GEA) and the authors' qualifications meet the requirements of CPG Basements. A Flood Risk Assessment (FRA) has been produced by MBP Consulting Engineers; however, the qualifications of the authors are not provided.
- 4.2 LBC confirmed 64 Avenue Road is not a listed building and nor are any of the neighbouring buildings. The site does not lie within a Conservation Area.
- 4.3 The site is located in a predominantly residential area on Avenue Road and features a threestorey residential dwelling. The site includes a raised garden and a paved patio area on the northeast side, along with a two-storey pool house in the northeast corner. The southwest boundary is defined by the pavement of Avenue Road, while Swiss Cottage School is situated to the northwest of the site.
- 4.4 The proposed development includes the construction of a basement beneath the footprint of the existing building and part of the rear garden, along with a two-storey rear extension to the existing structure. Additionally, the basement will feature a deeper sub-basement designed to house a swimming pool and associated equipment. The existing pavilion building at the rear of the site is proposed to be demolished down to the basement level, followed by deepening to approximately 3.60m before constructing a new building. It is understood that the existing basement of the pool building extends to a depth of 3.20m bgl.
- 4.5 According to the BIA, the basement construction will involve the use of contiguous piled retaining walls alongside reinforced concrete underpinning in a traditional hit-and-miss pattern. A section of the basement wall along the northwest part of the proposed basement is planned to be constructed using two-stage underpinning, while the west, southwest, and southeast sides of the new basement structure will be formed using single-stage underpinning. The development also includes the re-levelling and re-profiling of the garden area.
- 4.6 The BIA states that the new basement would have a formation level of 5.05m bgl, and the deeper sub-basement would have a formation level of 7.85m bgl. However, it is noted that the depth of the proposed basement has been presented inconsistently as 4.95m bgl and 7.65m bgl in section 8.2. The depth of the proposed basement should be identified and presented accurately and consistently across the BIA and the GMA.
- 4.7 The BIA identifies that one of the neighbouring properties at 62 Avenue Road has a basement but notes that the depth of the basement is unknown.
- 4.8 Screening and scoping assessments are presented and are informed by desk study information. While relevant figures and maps from the ARUP GSD have been referenced, they have not been included in the BIA. Additionally, justifications are missing for several questions within the subterranean flow and land stability flowcharts where a "no" response has been recorded. As per LBC guidelines, justifications should be provided if a "no" response is recorded.

- 4.9 Ground investigations carried out by GEA included a single cable percussive borehole drilled to a maximum depth of 20.00m bgl, four cable percussive boreholes progressed to a depth of 5.00m bgl, and trial pits. The ground conditions on-site were found to consist of Made Ground, ranging in thickness from 0.40m to 1.50m, overlying the London Clay Formation. Additionally, it is noted that the results of the ground investigations have been presented inconsistently in section 2.4 of the BIA.
- 4.10 GEA notes that groundwater was not encountered during drilling. Standpipes were installed in three boreholes, and groundwater monitoring recorded levels between 0.47m and 3.00m bgl. The BIA states that these groundwater levels are likely due to the accumulation of surface water within the standpipes rather than representing the actual groundwater table. GEA anticipates that any inflow of perched water during construction will be relatively minor and can be adequately managed using conventional sump pumping.
- 4.11 The subterranean screening flowchart states that the site is not within 100m of a watercourse or potential spring line. However, it is noted that the site is in close proximity to a tributary of the lost River Tyburn, and its potential impacts have not been considered. In Section 2.5, the BIA identifies that the former river crossed the rear half of the site and suggests that the feature may have been culverted. The screening and scoping assessments should be updated to include the potential impacts of the historic watercourse.
- 4.12 The response provided for question 4 of the groundwater screening assessment states that the building and hard-surfaced areas on-site would remain unchanged. However, this contradicts the responses provided in the surface water and flooding screening exercise, which states that the proposed development would increase impermeable surface areas. It is understood that the proposed basement extends beyond the existing building footprint, includes the installation of new lightwells, and introduces new soft landscaping areas in the front garden. Clarifications are requested, and any potential impacts on the hydrological and hydrogeological setting of the area should be assessed.
- 4.13 The Flood Risk Assessment (FRA) identifies that the site lies within Critical Drainage Area Group3_005 and recommends incorporating SuDS to alleviate and manage surface water flood risk and reduce the impact on the wider sewer network. The responses and justifications in the surface flow and flooding screening suggest that SuDS attenuation will be adopted for the proposed development. However, the response provided for Question 5 of the groundwater flow screening indicate that SuDS or soakaway drainage may not be suitable for the site, and clarifications are requested.
- 4.14 Additionally, GEA states that any additional surface water resulting from the increased hardstanding will be attenuated and discharged into the Thames Water sewer network to ensure that the surface flow regime on site remains unchanged. The drainage strategy should be clarified in the BIA and agreed with LBC and Thames Water.
- 4.15 The BIA also states that soil cover, approximately 900mm thick, would be provided where the basement extends beyond the footprint of the building. As per the ARUP GSD, a thickness of at least 1m of soil should be placed on the roof of a garden basement to mitigate the impacts caused due to the reduced infiltration capacity of the soil. This should be clarified.

- 4.16 The FRA identifies that while the site lies within Flood Zone 1, there is a low risk of surface water flooding on site towards the east part of the existing building, and attributes this to the lower elevation of the area. The LBC Level 1 Strategic Flood Risk Assessment Flooded Streets Maps indicate that Avenue Road, which borders the site, experienced flooding in 2021.
- 4.17 The FRA states that there have been no recorded incidents of flooding as a result of sewer surcharge of public sewers, following consultation with Thames Water. However, it is noted that the London Borough of Camden Strategic Flood Risk Assessment internal sewer flooding maps indicate that the site lies within an area where a single property has been affected by internal sewer flooding.
- 4.18 The BIA states that a single tree on the east part of the site is to be felled as part of the proposed development. However, the arboriculture report indicates that one tree and two groups of trees will be removed to facilitate the redevelopment. The BIA also states that the proposed tree removal would not impact slope stability on the site and recommends that foundations for any shallow structures extend beyond the desiccation depth. Any potential impacts due to the tree removal on the boundary wall must be considered in the BIA.
- 4.19 The BIA states that the site is not located over or within the exclusion zone of any tunnels or railway lines. The Thames Water asset location search maps, included with the FRA, indicate the presence of an exclusion zone associated with a combined sewer tunnel beneath Avenue Road, towards the southwest part of the site.
- 4.20 The BIA estimates unloading pressures of 95kN/m² and 150kN/m² due to the proposed basement and sub-basement excavations and anticipates heave movements from the underlying London Clay Formation. For the proposed pavilion construction, unloading pressures of 8kN/m² and 70kN/m² are anticipated. It is noted that Section 9.2.1 of the BIA presents slightly higher unloading values for the proposed pavilion building.
- 4.21 Section 8.2 of the BIA assumes that the basement construction would be carried out using a combination of contiguous piled walls and the underpinning of the existing foundations of the building. The underpinning works are stated to be carried out in a single stage where the basement is to extend to a depth of 4.95m and is proposed to be carried out in two stages for a section of wall where the basement is to extend to a depth of 7.85m bgl. The feasibility of the proposed depth of the single stage underpinning have not been considered in the BIA.
- 4.22 The BIA states that the proposed contiguous piled wall solution would be suitable to support the excavation in the temporary and permanent conditions. GEA recommends a concrete raft foundation and notes that tension piles extending into the London Clay Formation would be suitable for the proposed development.

- 4.23 The BIA assumes an embedment to exposure ratio of 1:1 for the contiguous piled walls, along with sufficient propping. Additionally, in section 7.1, the BIA notes that the piled retaining walls would be suitable to support the permanent works and support the structural loads. It is unclear if the piled retaining walls are designed to be load bearing, and outline calculations to demonstrate the adequacy of the assumed pile lengths are requested. It is noted that the pile capacity estimates provided in section 7.3 incorrectly states pile lengths as 4.65m and 7.65m, and clarifications are requested. The pile lengths chosen should be a cautious estimate to allow a conservative assessment to be undertaken.
- 4.24 The BIA identifies that the neighbouring buildings at 62 Avenue Road and the Swiss Cottage School would be affected by the proposed development, and a Ground Movement Assessment (GMA) has been undertaken. The ground movements arising from the installation of underpins and the contiguous piled retaining walls have been modelled using XDisp with reference to CIRIA curves. While CIRIA C760 is intended for use with embedded retaining walls, it is acknowledged that it can also predict ground movements in the range of those expected with a single lift of underpinning.
- 4.25 The GMA includes settlement contours for the proposed basement construction in the short term and overall conditions. However, it is noted that the input and output for the short-term movements haven't been included in the GMA, and this information is requested for review.
- 4.26 The stiffness parameter adopted for the PDISP assessment are provided in section 9.2.1 of the BIA. It is noted that the ground model considers one metre of Made Ground, followed by the London Clay Formation to a depth of 77.00m bgl. However, the rigid boundary of the model in PDISP is specified as -82.60m OD. It is noted that the Young's Modulus adopted for the bottom of the London Clay Formation corresponds to a depth of 77.00m bgl.
- 4.27 The PDisp input data for the proposed basement construction includes multiple loads ranging from 10kN/m² to 150kN/m². The BIA references structural drawings indicating the SLS raft pressures in Section 9.2.1. However, these drawings have not been included in the BIA and are requested for review.
- 4.28 It is understood that the excavations for the proposed pavilion building would vary between 0.40m and 3.60m due to the existing partial basement. The GMA models the ground movements resulting from the proposed pavilion construction by applying an unloading pressure of 71.17kN/m² at 3.65m bgl, offset by a loading pressure of 62.40kN/m² at 3.20m bgl, to account for the existing floor levels of the pavilion.
- 4.29 The PDisp analysis predicts total ground movements of between -4mm and 16mm along the edges of the proposed basement, and movements ranging from -2mm to -8mm due to the pavilion excavation. Ground movements ranging between -18 to -28mm are anticipated to occur in the centre of the proposed basement.

- 4.30 CIRIA installation curves for a panel like planar diaphragm wall have been adopted for the installation of the underpins, and the installation curves for a contiguous bored piled wall have been adopted for the ground movements arising from the installation of the piled walls. The BIA assumes that suitable propping would be provided during the construction of the basement and in the permanent conditions and considers the walls to be stiff.
- 4.31 It is noted that the surface movement curves due to the piled wall installations are applied between the surface and a depth of 15.30m. As discussed in section 4.23, the BIA adopts a pile length assuming a 1:1 embedment ratio. However, it is understood that the deeper subbasement would be formed at a level of 7.85m bgl, and as such the depth of application of the curves does not reflect the full depth of the installation. The assumed pile lengths should be clearly stated within the BIA and the GMA should be updated to include the full depth of installation.
- 4.32 The XDisp assessment predicts vertical movements ranging from 6mm to 20mm and horizontal movements between 10mm and 20mm as a result of the combined wall installation and excavation. The BIA states that the predicted movements are likely an overprediction, due to the re-entrant corners in the model.
- 4.33 The GMA models the walls of the neighbouring buildings at Swiss Cottage School and 62 Avenue Road; however, it does not include the boundary walls surrounding the site on the northwest, northeast, and southeast sides. Additionally, the neighbouring building to the east of the site has not been considered in the GMA, despite its proximity to the proposed pavilion excavation. The impact of the proposed basement excavation to these structures should be included in the GMA.
- 4.34 The existing site and demolition plans, along with Google Earth imagery, indicate that the rear walls of 62 Avenue Road align with the rear walls of the existing building that are proposed to be retained. However, the GMA models these walls as being positioned further away. The GMA should be updated to accurately reflect the geometry of the neighbouring buildings.
- 4.35 The Building Damage Assessment estimates a maximum damage category of Burland Category 1 (Very Slight) to the neighbouring buildings. However, this should be reviewed and confirmed following the clarifications requested above.
- 4.36 The BIA additionally includes a sensitivity analysis to account for the movements generated due to underpinning of the walls, assuming vertical and horizontal movements of 5mm per stage of underpinning, by applying custom movement curves to the underpinned walls. Although the "5mm movement curve" used is stated to be adapted from the CIRIA curve for excavation in front of a high stiffness wall in stiff clay, the curve coordinates does not appear to represent or replicate the CIRIA curve it was derived from. It is also noted that the 10mm movement curve to account for the two-stage underpinning does not indicate a combined movement of 10mm at the wall.
- 4.37 The BIA states that all known utilities and services are located beneath the roadway of Avenue Road, approximately 16m away from the proposed basement, and suggests that the proposed excavation would not have an impact on existing services and utilities.

4.38 The BIA indicates that a movement monitoring scheme with suitable action trigger levels and contingency measures would be implemented to ensure that any ground movements generated due to the proposed construction would be maintained within the predicted limits.

5.0 CONCLUSIONS

- 5.1 The authors' qualifications meet the requirements of CPG Basements.
- 5.2 The basement construction is proposed to be carried out using a combination of single stage and two stage underpinning, along with contiguous piled walls.
- 5.3 Screening and scoping assessments are provided, supported by desk study information. Inconsistencies in responses should be clarified.
- 5.4 The depth of excavation and the formation levels of the proposed basement has been presented inconsistently within the BIA and should be clarified.
- 5.5 The BIA confirms that the ground conditions on site comprise Made Ground over the London Clay Formation.
- 5.6 The BIA states that perched water may be encountered within the Made Ground; however, significant groundwater inflows are not anticipated on site.
- 5.7 Its indicated that attenuation SuDS will be adopted; the drainage strategy should be clarified.
- 5.8 Any potential impacts due to the tree removal on the boundary wall must be considered in the BIA.
- 5.9 Geotechnical parameters for retaining wall design have been provided. Additional information regarding the structural loads and the structural proposals are requested, including the feasibility of single stage underpins to 4.95m depth.
- 5.10 A Ground Movement Assessment undertaken indicates a maximum damage of Burland category 1 (Very Slight) to the neighbouring buildings. However, clarifications are requested as detailed in Section 4.
- 5.11 The BIA recommends a movement monitoring scheme with suitable action trigger levels.
- 5.12 It cannot be confirmed that the BIA complies with the requirements of CPG: Basements and the Principles for Audit set out in the Basement Impact Assessment (BIA) Audit Service Terms of Reference & Audit Process, specifically:
 - The methodologies and assumptions are not clearly stated and/or are not appropriate to the scale of the proposals and the nature of the site.
 - The conclusions have not been arrived at based on all necessary and reasonable evidence and considerations, in a reliable, transparent manner, by suitably qualified professionals, with sufficient attention paid to risk assessment and use of cautious or moderately conservative engineering values/estimates.
 - The conclusions of the various documents/details comprising the BIA are not consistent with each other. The conclusions are not sufficiently robust and accurate and are not accompanied by sufficiently detailed amelioration/mitigation measures to support the grant of planning permission in accordance with Policy A5 of the Local Plan, in respect of:

- maintaining the structural stability of the building, the ground and any neighbouring properties to within limits set out in the policy/guidance
- avoiding adversely affecting drainage and run-off or causing other damage to the water environment and
- 5.13 Queries and comments on the BIA are described in Section 4 and Appendix 2.



Appendix 1

Consultation Responses

None

Appendix



Appendix 2 Audit Query Tracker



Audit Query Tracker

Query No	Subject	Query	Status	Date closed out
1	BIA	Depth of the proposed basement excavation should be presented consistently across the BIA & GMA.	Open-see section 4.6	
2	BIA	Justifications to be provided wherever a "no" response is recorded in the screening assessment flowchart.	Open-see section 4.8	
3	Hydrogeology/Land stability	Screening flowcharts should consider potential impacts of the historic river Tyburn.	Open-see section 4.11	
4	Hydrology	Clarifications regarding the change in hard surfaced areas is requested. Clarifications to confirm the SuDS strategy to be adopted on site. Clarifications regarding the proposed thickness of soil cover over the basement.	Open-ee section 4.12 to 4.15	
5	Land Stability	Potential impacts due to the proposed depth of underpinning to be included within the BIA.	Open-see section 4.21	
6	Land Stability	Preliminary structural calculations to support assumptions regarding the piled retaining wall are requested. Excavation curves to be applied over the full length of the installation.	Open-see section 4.23 and 4.31	
7.	Land Stability	PDisp input and output for the short-term analysis are requested for review.	Open-see section 4.25	

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Query No	Subject	Query	Status	Date closed out
8.	Land Stability	Any potential impacts due to the tree removal on the boundary wall must be considered in the BIA.	Open-see section 4.18	
9.	Land Stability	The GMA should consider potential impacts to the neighbouring building on the east side as well as the boundary walls around the site.The geometry and position of the building walls of the neighbouring building at 62 Avenue Road to be confirmed and the GMA to be updated.	Open-see section 4.33 and section 4.34	
10.	Land Stability	The building damage assessment should be updated following updates and revisions to the GMA.	Open-see section 4.35	



Appendix 3

Supplementary Supporting Documents

None

Appendix

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